

*In this issue...*



A group of Nuclear Division retirees are putting their leisure hours to good use by serving as volunteers for Recording for the Blind, a nonprofit organization that supplies tape recordings of educational texts to the visually handicapped. Above, retirees Harold Mayberry and Martha Gerrard begin a recording session in RFB's Oak Ridge studios. More photos and a story are on page 2.

# NUCLEAR DIVISION NEWS

a newspaper for employees of the nuclear division • union carbide corporation



Vol. 10/No. 11 June 14, 1979

Benefits: your 'hidden paycheck'

## Other benefits complete 'paycheck'

In the last several issues of **Nuclear Division News**, we have been discussing the various benefits paid for by each employee's annual "hidden paycheck." These have included Social Security and the Pension Plan, which amount to 16.8 cents for each dollar paid in wages or salary; life and health insurance, another 5.7 cents per payroll dollar; and the Savings Plan, 1.7 cents per payroll dollar.

The final category in the hidden paycheck covers a lot of ground. Listed in cost summaries as "Other Benefits," it includes Workmen's Compensation Insurance, Unemployment Compensation Insurance, Layoff Allowance Payments, Educational Assistance Refunds, 25-year awards and safety awards.

### Workmen's Compensation

In line with the state Workmen's Compensation law, companies must provide their employees with certain protection when they are unable to work because of illness or injury incurred as a result of their jobs. This protection includes payment for medical and/or hospital expenses and payment of designated levels of weekly benefits during periods when an employee is unable to work due to occupational injury or illness. The law also provides for certain payments in the event of a permanent partial disability—such as the loss of a finger—or in the event of a total and permanent disability.

In 1978, due to our favorable accident experience, Workmen's Compensation cost the Nuclear Division only .26 cents per payroll dollar.

The Company also continues to make certain wage and salary payments to employees unable to work because of illness or injury. In

the case of absences caused by occupational conditions, the amount of wage or salary payments, combined with payments from Workmen's Compensation Insurance, enables employees to continue receiving 100 percent of their straight-time earnings for regular scheduled work hours during the period required for convalescence. The cost of these wage or salary payments is included in the money spent by the Company for pay for time off other than holidays and vacations and is, therefore, not considered a part of your "hidden paycheck."

An employer is required by law to pay Unemployment Compensation Insurance premiums for the purpose of building up a fund from which the state can pay unemployment compensation. In 1978, again due to our favorable experience in this area, the Nuclear Division's payments for this purpose were .73 cents per payroll dollar.

### Educational Assistance

The Company paid out an average of .58 cents per payroll dollar in 1978 for Layoff or Termination Allowance. This Allowance is made to employees who are laid off due to lack of work, who are terminated due to retirement under the Pension Plan, or who are given a medical termination because of health reasons.

*Energy Advisor...*

## Conserving energy: Will it hurt? ...should it?

**Editor's Note:** With this issue of **Nuclear Division News**, we are inaugurating a planned regular series of features on energy conservation. The series will focus on conservation practices and their impacts, both at home and in the workplace. Merl Baker, of ORNL's Energy Division, is coordinating the conservation series and welcomes inquiries from prospective contributors of articles, questions or ideas. Articles by staff members from throughout the Nuclear Division on their own conservation experiences or research will alternate with an "Energy Adviser" column to respond to conservation-related questions from readers. Questions will be answered by members of ORNL's General Energy Conservation Committee, chaired by Ralph Donnelly of the Metals and Ceramics Division, and by other resource persons within the Nuclear Division. Address your inquiries to: Energy Adviser, **Nuclear Division News**, Building 4500N, Room K-254. Below, to kick off the series, Baker outlines some of his own thoughts on this area so vital to our nation's energy future.

by Merl Baker, Energy Division

*How we use energy, and how much we use, are no longer matters of idle curiosity or casual interest.*

*Energy is a pocketbook issue for all of us, whether we're talking about the price—and availability—of gasoline for transportation, or the monthly electric bill.*

That means that conservation is not only an idea or ethic. It's a practical economic necessity if we are to maintain some control over the costs we face for essentials without sacrificing an accustomed standard of living.

Even in this immediate area, where electricity rates are well below the national average, energy's contribution to spiraling cost-of-living increases is clear.

Take this typical winter-month bill for an electrically heated home: in 1975, for a 4428 kwh monthly consumption, the bill was \$64.30, or 1.45 cents per kwh; for the same month in 1979, when 5191 kwh were used, the bill was \$158.15, or 3.05 cents per kwh.

At the present rate of increase, it scarcely will take four years for prices at the gas pump to double in the same way as the example above.

Energy conservation is a term that means different things to different people. Some feel that conservation really is synonymous with deprivation.

Much closer, however, to the spirit and intent of the Oak Ridge programs that are concerned with conservation—both in the area of programmatic research and operating practice—is the idea of eliminating waste and increasing efficiency in energy uses, not deprivation.

In 1978, more than 950 employees received a total of \$90,100 in refunds  
(Please see page 6)

(Please see page 5)

## Savings Plan payout July 2

The Savings Plan settlement checks for participants in the General Savings Fund will be distributed on Monday, July 2.

In order to assure compliance with the Employee Retirement Income Security Act, the Company will no longer be able to forward Savings Plan checks directly to an employee's bank or credit union. (This is to avoid alienation or assignments by a third party.) Employees who would like to have their checks delivered at work should complete the proper form before Friday, June 15; otherwise your check will be mailed to your home.

For those completing the form, the checks will be delivered to the work locations at ORGDP and Y-12; at PGDP and ORNL, employees will be asked to pick up their checks at the paymaster's office.

Under the Savings Plan, an employee may authorize payroll deductions of up to 7½ percent of his or her earnings. The Company contributes 10, 20 or 30 percent to this amount, depending on whether the employee has one, two, or three or more years of company service.



*At Recording for Blind. . .*

# Retirees donate time to read for others

What do Alistair Cooke and a score of Union Carbide retirees have in common? Cooke, noted British writer, actor and producer, has been a volunteer for Recording for the Blind (RFB) since 1953.

It was about that time that a band of Oak Ridgers got together and began recording on old dictaphone equipment to provide materials—both professionally and nonprofessionally oriented literature—for visually handicapped persons.

RFB has come a long way since then. Last year alone, more than 90,000 titles were supplied, free of charge, to blind and physically handicapped students and professionals across the country. Its library, which grows at the rate of 4,500 titles each year, is the largest free, circulating library of educational texts in the world.

## Lions assist

In Tennessee alone, some 156 students borrowed 249 books from RFB libraries last year.

RFB, a nonprofit organization, obtains much of its financial assistance from the Lions, International. There are 29 RFB recording studios across the country, where volunteers spend thousands of hours reading and monitoring the material requested.

Of the 5,000 volunteers throughout the nation involved in recording and monitoring, none are more dedicated than a band of retired Nuclear Division employees, many of whom were among the founders of the organization.

Carbide retirees Bob Kernohan, Tony Pleasonton and Martha Gerrard are among those who recorded in the early 50's, on what seems now to be ancient equipment. "Without Tony, we would not have a recording facility here," a member of the group said. Waldo Cohn, another well-known retiree, has long been active with the group.

## Retirees help out

Other retirees volunteering their services are Harold Mayberry, Boyd

Weaver, Milton Carey, Phil Bremen, Lois Morris, Jim Hallau and David Knowles. Many of these men and women put in regular hours each week at the RFB studio on Badger Road, just behind the Oak Ridge Museum of Science and Energy.

To record, a person must be "voice-tested" to make sure his or her recorded voice is easily understandable. A southern accent is not a deterrent, RFB officials say; many accents record quite well.

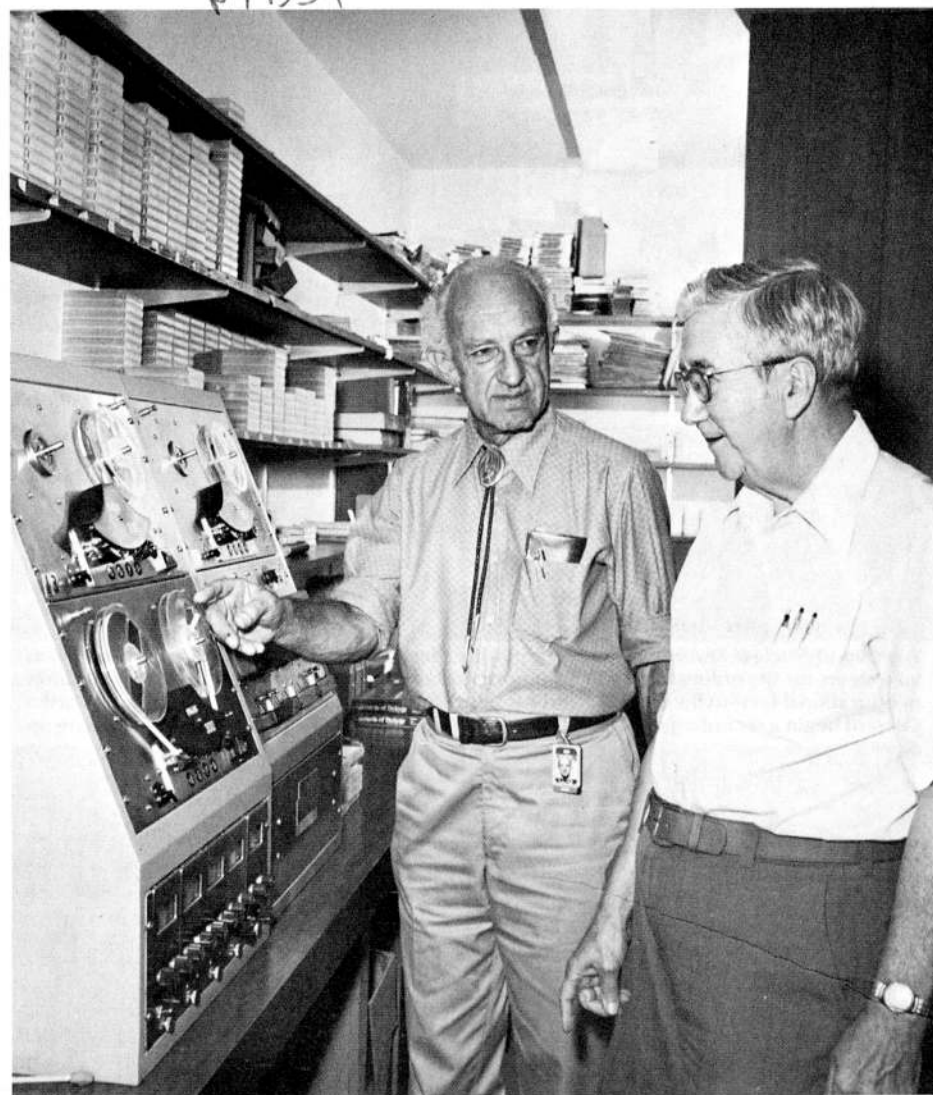
An interesting project undertaken by the local RFB was recording the New Edition of the Bible for a blind minister in Memphis. Local volunteers took turns doing the recording, so he got a variety of voices in both the Old and New Testament.

Many active Nuclear Division employees also donate their time at the recording studios, and many spouses and family members are involved in the work as well.

## Volunteers needed

Services of RFB are not confined to those who are legally blind. Many students are print-handicapped, because they cannot hold or turn the pages of a book due to such ailments as cerebral palsy or paraplegia. Others cannot read print because of dyslexia, a perceptual disability.

RFB always has a need for more readers and more monitors. All that is required is some of your time. Just drop by the RFB headquarters, 205 Badger Road, or call them at 482-3496. They'll be happy to work you into their schedule.



Waldo Cohn, left, and Jim Hallau discuss the workings of RFB's recording equipment.

## Enjoying the leisure life. . .



Samuel R. Buxton  
Chemical Technology  
ORNL  
31 years service



Bert G. Catron  
Employee Relations  
ORNL  
32 years service



Ned M. Clark  
Plant and Equipment  
ORNL  
31 years service



Paul J. Connelly  
Plant and Equipment  
ORNL  
30 years service



Ervin Halterman  
Photography  
ORGDP  
35 years service



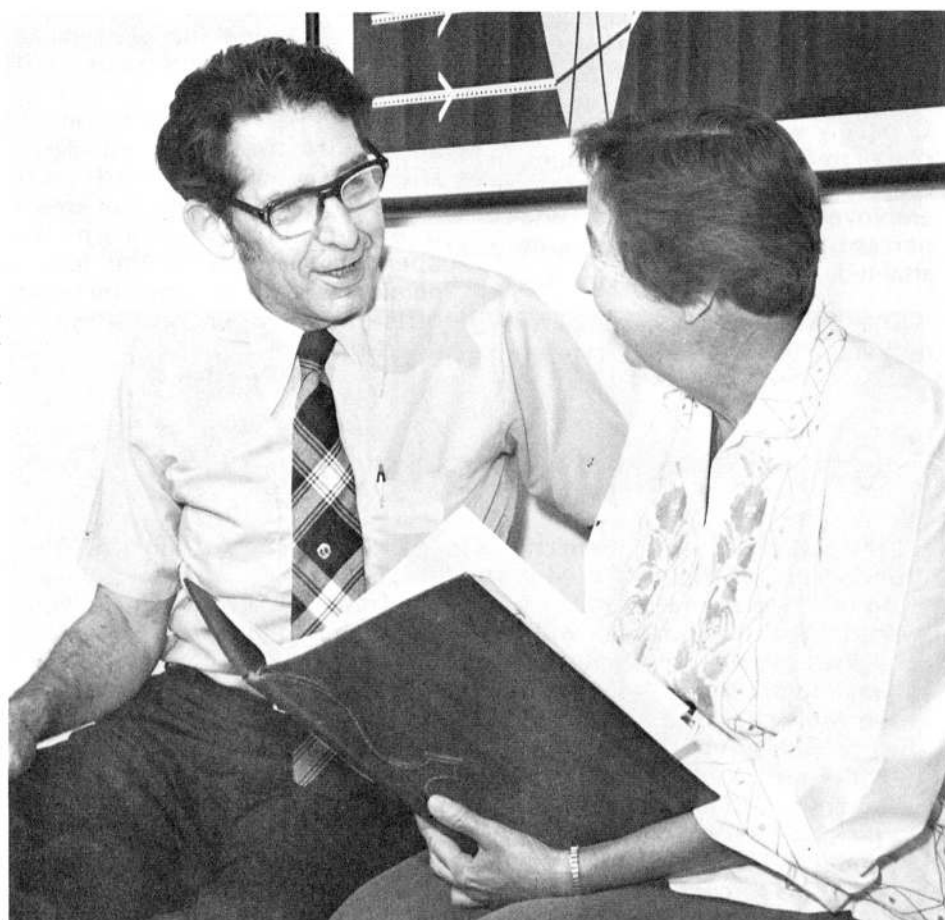
Howard F. Raby  
Environmental Sciences  
ORNL  
30 years service



Samuel A. Thompson Jr.  
Engineering  
ORGDP  
26 years service

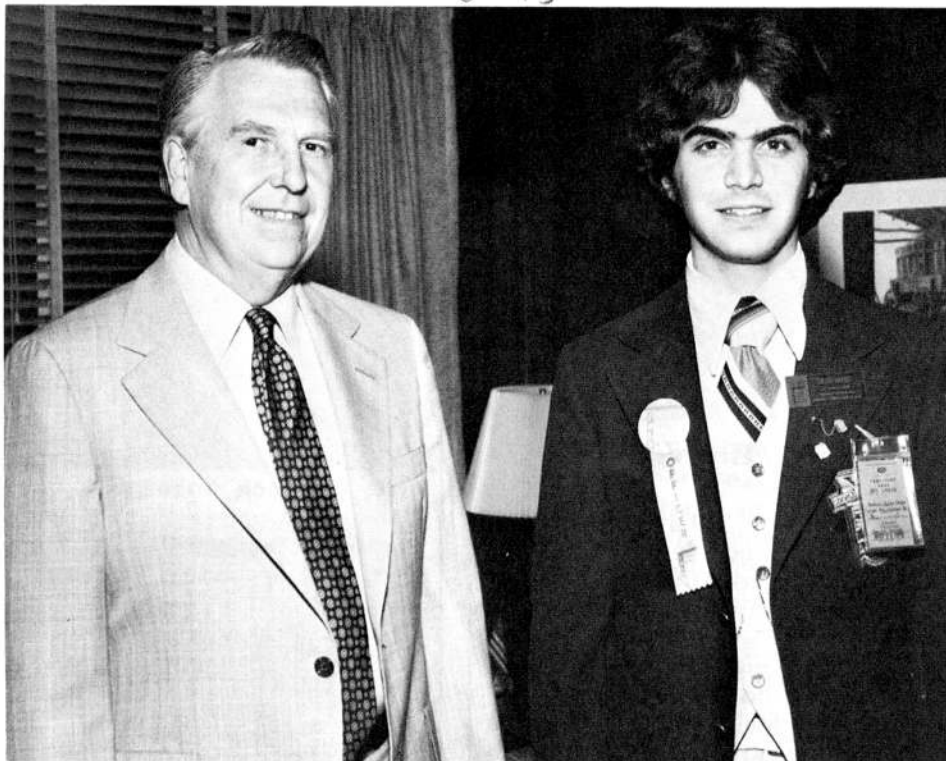
also. . .

Arline M. Culkowski  
Computer Sciences  
ORNL  
22 years service



Bob Kernohan and Tony Pleasonton chat while waiting their turn in the recording booth.





ADVISORY VISIT—Brad Hobbs, right, recently visited the Paducah Plant to discuss Plant Manager Clay Zerby's appointment to the Future Business Leaders of America State Advisory Council. Zerby will serve a two- or three-year term on the council, whose purpose is to promote and support the goals of the student business club.

## Zerby named to FBLA council

Paducah Plant Manager Clay Zerby has been appointed to the newly created state advisory council of the Future Business Leaders of America (FBLA). The council, which consists of seven members from various business fields and related organizations, has been formed to strengthen and augment the mutual relationship of the club with actual businesses.

FBLA is a student business club directed toward the development of competent business leaders by creating interest in and promoting the fulfillment of the American business enterprise. There are approximately 8,300 FBLA clubs in Kentucky and nearly 200,000 across the nation.

Business-related projects help to facilitate the transition from school to work, and yearly themes reflect a coordinated concern in specific areas. This year, clubs across the country will focus on an Energy Awareness Project in addition to their continuing Free Enterprise Awareness.

Brad Hobbs, Kentucky president of FBLA and son of Peck Hobbs of PGDP's Cascade Operations Division, recently visited Zerby at the Paducah Plant. "The interest and support of Mr. Zerby, and the council as a whole, will greatly benefit FBLA and the state organization," he said. "I'm sure our club will grow and prosper with the advisory council's assistance."

## Concert series set for summer

A series of free Sunday night outdoor concerts is scheduled during the summer months in the Pavilion behind the Oak Ridge Civic Center. The series is sponsored by the Arts Council of Oak Ridge in cooperation with the Nuclear Division.

The series will include programs appealing to a variety of musical tastes. Among the community organizations participating are the Community Band, Friday Night Live, the Oak Ridge Recreation Teen Board and two groups from the Civic Music Association—Discovery Brass and a woodwind quartet.

All concerts will begin at 7:30 p.m. Persons attending should bring lawn chairs or blankets on which to sit.

A partial schedule follows:

June 24 - Progressive country concert  
 July 4 - Community Band  
 July 15 - UT Jazz Concert Quintet  
 July 22 - Discovery Brass (tentative)  
 Aug. 5 - Community Band  
 Aug. 12 - Rock Concert  
 Sept. 3 (Labor Day) - Community Band

## Solid waste manager at PGDP

Howard Pulley, former head of the Technical Services Division's environmental and chemical technology group, has been assigned the management of all solid waste materials generated at the Paducah Plant.

Included are the responsibilities of safe and cost-efficient disposal, operational and custodial responsibility and planning of effective land use. Pulley will also serve as the plant liaison with state, federal and DOE representatives in this area.

Pulley has a BS degree in chemistry from Austin Peay State University. He joined Union Carbide in 1966. During his 13 years at the Paducah Plant, he has developed technology for the removal of minute quantities of transuranic elements from uranium



Howard Pulley

hexafluoride and removal of technetium from aqueous solutions.

He and his wife, Rose, live at Route 2, West Paducah. They have two daughters, Sheila and Andrea.

## Corporation plans 30% energy cut by 1985

Union Carbide Corporation has embarked on an ambitious new voluntary energy conservation program aimed at cutting energy consumption 30 percent by 1985. Establishment of the new energy conservation goal was announced by Union Carbide President Warren M. Anderson, who called it "a difficult and challenging undertaking, but one that we feel can and must be attained to help offset ever mounting energy costs and reduce our nation's foreign oil dependence."

The 30 percent average energy savings goal would be in terms of energy required per pound of product output, using 1972 as the base or comparison year, Anderson explained. And it would apply to all of Union Carbide's domestic operations.

An earlier voluntary goal, set by the Manufacturing Chemists Association in 1974, committed its member companies, including Carbide, to reducing energy demand per pound of product (from the 1972 base year) 15 percent by 1980. Union Carbide and the other participating MCA member companies attained the 1980 chemical industry goal last year—a full two years ahead of schedule.

"Having exceeded one goal, neither we nor the nation can afford to stop there," Anderson said in explaining Union Carbide's new voluntary goal-setting action. "Events make the need to use energy efficiently as great today as it was when we set our 1980 goal."

The new goal commits Union Carbide in the next six years to reducing energy consumption per pound of product an additional 15 percent, thus bringing about the full 30 percent reduction. According to Anderson, the 15 percent reduction achieved under the initial goal works out to a reduction of the equivalent of 11 million barrels of oil in 1978 alone, and an energy cost savings to the company of \$150 million. By the time Union Carbide's goal is met in 1985, he pointed out, the company can expect an energy cost savings of nearly \$320 million a year.

Union Carbide's director of energy and transportation policy, Ronald S. Wishart Jr., outlined a four-point program for achieving the company's energy conservation goal:

- **Energy-conscious operation and maintenance.** All Union Carbide plants have ongoing formalized conservation programs aimed at saving energy through such "housekeeping" measures as reducing unnecessary lighting, controlling steam leaks and installing proper insulation.
- **Energy audits.** Union Carbide has conducted energy audits of its operations since the early 1970s. Thousands of individual conservation projects flow directly from these audits, Wishart said.
- **Retrofitting existing facilities to make them more energy efficient.** Many Union Carbide facilities were designed for cost effectiveness in an era of lower energy costs. With these costs increasing rapidly, projects to modify, replace or add to existing equipment at some facilities result in significant energy and dollar savings.
- **Improved process technology.** Union Carbide intends to remain on the forefront of industry efforts to develop new, more energy-efficient manufacturing processes and techniques, Wishart said. As evidence of this leadership role, he points to Union Carbide's new low pressure process for oxo alcohols and aldehydes, which uses one-third less energy than conventional processes. Far and away the most dramatic process breakthrough in this regard is Union Carbide's new low pressure process for low-density polyethylene which uses only one quarter the energy required by conventional high pressure processes.

## NUCLEAR DIVISION NEWS

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NUCLEAR DIVISION

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### PADUCAH

Darlene Mazzone, Bell 208



## anniversaries. . .

### PADUCAH

25 YEARS

Nolen L. Collins and Robert Y. Burkett.

### Y-12 PLANT

35 YEARS

Juanita H. Easley, Plant Laboratory; Helen H. Cunningham, Mail Department; Thelma W. Cole, Plant Laboratory; Doyle F. England, A Wing, H2 and F Areas; and Margaret J. Pierce, Casting Department.

25 YEARS

Kirk O. Pearson, Keron D. Thompson, William F. Wormsley, Joe Dick, Billie D. Duncan, Golman Phillips, Clayton R. Olmstead, George A. Burton Jr., David R. Heidle, R. B. Patterson, Claud J. Tapscott Jr., Luther H. Finks, Edwin A. Reed, Dillard A. Davis, Boyd T. Burrell and James T. Dobbs.

20 YEARS

Thomas G. Kollie, Robert D. Scalf, Ruth E. White, Glenn H. Humphries, Donald G. Sexton, Robert H. Wilkerson and James G. Worley.

### ORGRP

35 YEARS

Frank Branam Jr., Finance and Materials; and Paul T. Carroll, Security.

30 YEARS

Elbert J. Jenkins, Maintenance.

20 YEARS

Bennie F. Alexander.

### ORNL

35 YEARS

William H. Johnson, Plant and Equipment, and Francis M. Scheitlin, Chemical Technology.

25 YEARS

Gilbert E. Woodall, Robert J. DeBakker, Charles W. Hancher, Mary S. Brown and Jeane L. Chamberlain.

20 YEARS

Condon R. Clough, Henry R. Harshaw, James A. Slice Jr., Ralph G. Donnelly, Leonard L. Johnston, Donald D. Cannon and Ray L. Johnson Jr.

## Medicine Chest. . .

### Cancerous moles



By T. A. Lincoln, M.D.

QUESTION: "I have heard that moles which become cancerous can seldom be cured. If that is so, how can I keep my many moles from turning into cancer? If one of them is becoming malignant, how would I know? What do I need to look for?"

ANSWER: Malignant melanoma is a potentially dangerous, though uncommon, malignancy. If the melanoma still is localized and can be completely removed, the prognosis is quite good. In some studies, as many as 85 percent of the cases were cured when the lesion was recognized early and completely removed. In several large series of cases, about 70 percent of the melanomas were still localized when the diagnosis was made. In 14 percent, spread had occurred regionally, and in 11 percent, it had already spread to distant locations.

#### Warning signs

Judging whether or not a mole is malignant just by its appearance is difficult even for a dermatologist. If the mole has grown rapidly, if it has an irregular border or if the color of the pigment is variegated with clumping, then one should seek advice immediately. Changes in color and lateral growth of a mole are the reasons which bring most people to their doctors. Bleeding, ulceration and tenderness usually are seen only in advanced lesions.

Malignant moles may occur on the eye, in the mouth, on the genitals and under the nails. These locations seem to be more common in blacks and Orientals. Moles occurring in skin which has been exposed to the sun seem to have a better prognosis than those in covered areas, especially on the trunk.

Melanomas which occur on skin which is normally exposed to the sun (for example, the face, neck and hands) tend to occur earlier in life. One recent study suggested that melanoma patients had a more frequent history of severe sunburn in childhood. Chronic irritation may make a mole more vulnerable to malignant degeneration.

#### Excessive sun taboo

Probably the main thing you can do to prevent a melanoma is to avoid excessive exposure to the sun. Avoidance of unnecessary exposure by staying out of the sunlight during the middle of the day, keeping covered up, using a sunscreen lotion or cream makes good sense for everybody—especially for persons with light complexions or red hair. Getting a deep tan may make you think you are more attractive, but it damages your skin. Years of heavy exposure not only predispose many people to skin cancers and melanomas, but it also prematurely ages the skin, making it dry, wrinkled and thin.

## About people. . .



Koch



Hendrick



Left to right: Reynold G. Berggren, M. Goodwin and Gerald M. Slaughter

Team efforts of five M&C Division brought honors to ORNL at the 19th Banquet during the Annual Meeting Award was presented for "the best knowledge on low alloy steel, stainless steel, the use, development, or testing of published in the **Welding Journal** article is entitled "Structure and Properties of 308 Stainless Steel Weld Metal with

Two Metals and Ceramics Division Fellows of the American Physical Society his research on superconductors, especially on alloying behavior and phase transitions. He works as an M&C group leader. **Hendricks** was cited for contributing particularly for his studies of the state of matter as by diffuse and small-angle X-ray scattering. He is the **Industrial Research** magazine's 1977 meter small-angle X-ray scattering c

**Enzo Ricci**, Analytical Chemistry Division, the American Nuclear Society's Nuclear member committee is charged with the activities and programs, as well as the and policies for ANS. Ricci has served on committees of the ANS Isotopes and

**Raymond G. Wymer** has been appointed to the National Research Council's Subcommittee on chemistry. A Nuclear Division employee, he is associate director of ORNL's Chemistry



ATTENDS WORKSHOP—Samantha Richter, recently as a Union Carbide Scholar, confers with her teachers at Oak Ridge. Richter was chosen by her teachers at Oak Ridge. In less than 10 years, Union Carbide has sponsored an all-time high of 107.



**NEW OFFICERS**—The Tennessee Valley Chapter of the American Vacuum Society, newly formed in the Oak Ridge-Knoxville area, has scheduled an organizational meeting for tonight at the Holiday Inn in Oak Ridge. Officers are, from left, Paul G. Schneider, Y-12, vice chairman; Don Lewis, Varian Associates, executive committee; Edward T. Stickle, Y-12, chairman; Bob Langley, ORNL, executive committee; Jess Simpkins, ORNL, secretary-treasurer; and James W. Johnson, ORNL, executive committee. The Tennessee Valley Chapter encompasses Tennessee, Kentucky, South Carolina, Georgia and Alabama.

### Vacuum Society forms local chapter

A newly formed Tennessee Valley Chapter of the American Vacuum Society (AVS) will be chartered in Oak Ridge tonight, with many members from the Nuclear Division involved.

AVS is a member society of the American Institute of Physics. Its members work in surface science, thin-film science, vacuum technology and electronic materials process and device technology.

An informal get-together was held in May to elect officers and petition for a charter. Tonight's meeting will

feature an address by C. B. Duke, manager of the materials sciences laboratory at the Xerox Research Laboratories, and national president of AVS.

Y-12er Edward T. Stickle is chairman of the new chapter; Paul G. Schneider, also of Y-12, is vice chairman. Jess Simpkins, ORNL, is serving as secretary-treasurer; and members of the executive committee are James W. Johnson, ORNL; Don Lewis, Varian Associates; and Bob Langley, ORNL.

### division death. . .



Mr. Kidd

**Francis D. Kidd**, a chemical operator in the Paducah Plant's Power, Utilities and Chemicals Division, died April 30 in Caulfield, Mo. A native of Metropolis, Ill., Mr. Kidd joined Union Carbide in 1952.

Survivors include his wife, Anna; sons, Dennis, Pat, Dan and Alan; daughters, Bette and Alice (in the Cascade Operations Division at Paducah); brothers, Spence, Willis, Jack and Maurice; and sisters, Mary

Trieglaff, Evelyn Searles and Ruthie Kidd.

Funeral services were held at Aiken-Farmer Funeral Chapel, Metropolis, with military rites conducted by the Veterans of Foreign Wars and the American Legion at the graveside in the Masonic Cemetery.

### wanted. . .

#### ORNL

RIDE from Powell area to East Portal, 8-4:30. Tom Rice, plant phone 4-7089, home phone 947-8709.

CAR POOL MEMBER from Cedar Lane-Inskip Road area, Knoxville, to East Portal, 8:15-4:45. Bill Clark, plant phone 4-6695.

JOIN CAR POOL from East Race St. area, Kingston, to East Portal, 8-4:30. Mike Mahathy, plant phone 4-4909.





Wymer



James O. Stiegley, Robert J. Gray, Gene

on staff members (see above photo) 79 American Welding Society Awards and Welding Show. The McKay-Helm contribution to the advancement of less or surfacing weld metals involving these materials as presented in articles during a given calendar year." Their varied Temperature Properties of Type Varying Ferrite Contents."

on staff members have been elected ciety. **Carl C. Koch** was recognized for specially in the area of fluxoid pinning, transformations in rare earth metals and ader for superconductivity. **Robert W.** ons to the field of materials science, e of order by neutron scattering as well chniques. In 1977, Hendricks received R-100 award for development of the 10-amera.

ivision at ORNL, has been appointed to itional Planning Committee. This 17- the short- and long-term planning of e establishment of objectives, priorities ed as an officer or member of various d Radiation Division.

ointed to a three-year term on the ommittee on Nuclear and Radio-loyee since 1953, Wymer is currently cal Technology Division.



ght, who attended the Congressional Workshop with Congresswoman Marilyn Lloyd Bouquard. Ridge High School to represent the area in the as sponsored more than 500 students; this year it

## wanted. . .

Y-12

JOIN or FORM CAR POOL from the Gallaher View Road-Gleason Road area, West Knoxville, to North or East Portal, straight days. Jim Conklin, plant extension 4-0567, home phone Knoxville 690-4508.

VAN POOL RIDERS from West Knoxville, West Town, Cedar Bluff areas to any portal, straight days. C. W. Greene, plant phone 4-4037, home phone Knoxville 690-3762.

VAN POOL RIDERS from Fountain City, Norwood areas, to East, North or Central Portals, straight days. Bill Moyers, plant phone 4-3195, home phone Knoxville 689-4087.

RIDERS from Cumberland Estates to East, North or Central Portals, straight days. C. E. Spradlin, plant phone 4-3433, home phone Knoxville 584-7114.

RIDE or JOIN CAR POOL from New York Avenue, West Outer Drive area to Central Portal, straight days. W. L. Boutwell, plant phone 4-2109, home phone Oak Ridge 483-1982.

VAN POOL RIDERS from Cumberland Estates to East or North Portals, straight days. Don Taylor, plant phone 4-0550, home phone Knoxville 637-9629.

CAR POOL members from Cedar Bluff area, Knoxville, to any portal, straight days. Ginny Nelson, plant phone 4-3320, home phone Knoxville 693-4755.

RIDERS from Lenoir City to any portal, straight days. T. C. Hudson, plant phone 4-0091, home phone Lenoir City 986-8215.

### ORGDP

RIDE from Fountain City area, Knoxville, to Portal 2, 7:45-4:15 shift. Steve Fritts, plant phone 4-7905.

### ORNL

JOIN CAR POOL from Garden Apartments, Oak Ridge, to East Portal, 8-4:30. Fran Quillen, plant phone 4-6611, home phone 483-0671.

JOIN or FORM CAR POOL from Andover/Amherst/Alger area, Oak Ridge, to any portal, day shift. Wilma Stair, plant phone 4-4772, home phone 483-3114.

RIDE ONLY from Seymour area to South or East Portal, 8-4:30. David Fahey, plant phone 4-4485, home phone 579-5342.

RIDE from Loudon (intersection I-75 and Highway 72 or intersection I-75 and Highway 95) to East Portal, 8-4:30 or 8:15-4:45. Lou Gunnels, plant phone 4-7029, home phone 458-5903.

RIDERS for VAN POOL from West Knoxville to any portal, 8-4:30. Dean Treadway, plant phone 4-6580, home phone 584-4879.

CAR POOL MEMBERS from Cedar Lane/Inskip area, North Knoxville. Bob Hopper, plant phone 4-4134, home phone 687-9197.

JOIN CAR POOL from West Knoxville/Walker Springs area to any portal, 8-4:30. For Susan Rowland, but call Karen at extension 4-4163.

JOIN CAR POOL from Paper Mill Road Exit area, Knoxville, days (willing to drive to meet ride). John Williams, plant phone 4-4164.

JOIN or FORM CAR POOL from Cedar Hill area, Oak Ridge, to East Portal, straight days. John Bell, plant extension 4-5448; home Oak Ridge 482-2598.



**COORDINATED EFFORT**—Lavon Pease, left, recently appointed coordinator for the Paducah plant blood program, assists Jo Ann Hinkle in signing up for a recent bloodmobile visit. Pease chairs a six-person committee who organizes each drawing. Since January of this year, employees at the plant have given 446 pints of blood, bringing the program's total to 2,864 pints. The Paducah plant has approximately 625 regular donors.

## Conserving energy: Will it hurt?

(Continued from page 1)

However, reality dictates that most improvements will take time. Accordingly, it is doubly important now that we put into practice what we already know about conservation so that energy will be available to meet current needs.

The updated National Energy Plan, NEP-II, made public very recently, is controversial because it attempts to balance and resolve the competing interests and perspectives on energy of many different sectors of our society and the public at large.

Similarly, the life styles of families and individuals will not conform completely to any single mode of energy use or conservation. Approaches that may be helpful to some may run against the traditions and priorities of others.

It goes without saying that not all of the ideas put forward on how to conserve energy, or the proclaimed benefits, will be well suited to your own situation. Our emphasis in this series, therefore, will be on examples of what has been done, individually and organizationally, and with what results.

We'll let you be the judge and advocate, based on the most objective information we can provide.

Clearly, one of the most important ideas to be explored is the matter of initial versus lifetime costs of the major energy-consuming items we buy—whether a car, a heating and

cooling system, water heater, or some other appliance.

Most energy-efficient machines, systems, and processes do represent a higher initial cost than less efficient ones. But once this investment is made, the energy- and cost-saving benefits extend over the whole lifetime of the appliance.

Not unlike an insurance policy, this original investment in efficiency will pay dividends as you go along and also be the best protection against at least some of the effects of future increased energy costs.

In many cases, there is a very rapid return on this added initial investment. Recent Oak Ridge studies of more energy-efficient refrigerator-freezers and water heaters have shown, for example, that typical payback periods are only a year or two.

This is the time over which savings in regular operation will equal the added original cost.

For many of us, significant progress toward more energy-efficient living can begin by taking this lifetime versus initial cost factor into consideration in making our major purchases.

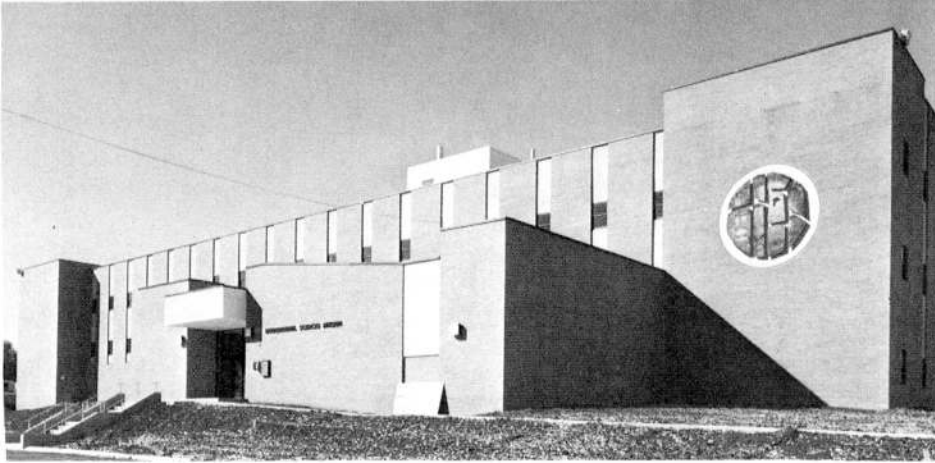
In looking ahead at topics to be covered in future articles, we will be aided greatly by knowing those areas in which our readers are particularly interested. We hope also that you will contribute your questions on these topics to the companion "Energy Adviser" column, which will alternate with these features.

## safety scoreboard

Time worked without a lost-time accident through June 8.

Y-12 Plant.....	63 Days	1,840,000 Employee-Hours
ORGDP.....	177 Days	5,756,089 Employee-Hours
ORNL.....	76 Days	1,742,840 Employee-Hours
Paducah.....	14 Days	168,000 Employee-Hours





The Environmental Sciences Laboratory at ORNL received Special Mention for its energy conservation features in the "Laboratory of the Year" competition sponsored by *Industrial Research/Development* magazine. The new facility was honored because it "provides an exceptional example of excellent redesign to minimize energy consumption during operation." The building was first designed in the early 1970's before the energy problems developed. It was then redesigned, before construction, to reduce energy use. Compared to the original plans, the present facility provides an energy saving of 60 percent, at an annual cost saving of more than \$110,000. A citation and photograph of the laboratory appeared in the May issue of *Industrial Research/Development*.

## question box. . .

If you have questions on company policy, write the Editor, **Nuclear Division News** (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

### Internal correspondence

**QUESTION:** For what reason do we have to list the addresses, mail stop, plant and telephone number on internal correspondence? It takes up more time than writing the letter.

**ANSWER:** Address information is included on internal correspondence to assist in its prompt and efficient delivery, to serve as a tool in keeping this information up to date for our mobile Division personnel, to make it possible to mail many issuances without envelopes, and to permit remote reproduction and mailing of certain correspondence. Most secretaries have ready-reference lists of those persons frequently addressed or have long ago committed address information to memory and, therefore, do not consider its inclusion burdensome.

### Plant bulletin boards

**QUESTION:** Is anyone responsible for clearing the "classified ads" on the bulletin boards throughout Y-12? I recently responded to one and the person told me he had disposed of the merchandise more than a year ago.

**ANSWER:** Y-12 has nine official plant bulletin boards and closely controls material posted on these boards. There are, in addition, numerous shop or departmental bulletin boards which are not controlled so closely. While the company does not encourage use of these boards for display of personal ads, there is no serious objection to this being done on a limited basis. The company assumes no responsibility for removing such "classified ads," timely or otherwise, except for cleanup when space is needed for company postings. Each employee should assume the responsibility of removing his/her ad from bulletin boards in a timely manner, or at least dating them so that others will know when they are outdated.

### Credit union deposits

**QUESTION:** Why doesn't Carbide send payroll deductions for monthly

employees to the Credit Union on the same date that they forward pay checks for deposit?

**ANSWER:** Late in 1978, Paducah requested Nuclear Division payroll to submit the monthly deductions to the Paducah Credit Union on the normal monthly pay day. This request was granted, and in January 1979 this same request was also granted to the three Oak Ridge credit unions. Questions of further allocation of funds to the employee's account should be directed to the respective credit union.

### Prestone purchase

**QUESTION:** What is the real reason we have never been able to purchase Prestone in the company stores?

**ANSWER:** Many years ago Prestone was offered to employees at many locations at reduced cost. To avoid resale by employees, there were restrictions on how much product an employee could purchase. There were many abuses which brought complaints from service station owners, and eventually sales to employees were stopped.

Selling Prestone to employees today would probably not offer them much advantage. Many discount stores sell Prestone at cost or even at a loss in order to attract customers to their locations. There is no plan at the present time to resume the sale to employees of Prestone in company stores.

## Summer seminar series begins

A series of summer seminars for visitors and staff will begin at ORNL Tuesday, June 26, with Associate Director Murray W. Rosenthal speaking on "Energy Sources: Past, Present and Future."

The seminars will be held each Tuesday through August 7 (with the exception of July 3), at 3 p.m. in ORNL's Central Auditorium, 4500N.

## Other benefits complete 'paycheck'

(Continued from page 1)

for educational courses completed under the provisions of the Educational Assistance Program. (If you are interested in participating in this program, contact the Educational Assistance representative at your installation.)

Under the provision of the Company's 25-year Award Program, an additional \$92,100 was spent last year on watches, clocks and rings for employees who completed 25 years of service. From 1943 through 1978, approximately 6,340 Nuclear Division employees had completed 25 years with Union Carbide.

The combined cost of the Educational Assistance Program and the 25-year Award Program in 1978 was .05 cents per payroll dollar.

### Total: 1.7 cents

The final item included in the "Other Benefits" category is the cost of nearly 20,000 safety awards, provided each spring to employees who were on the payroll as of December 31 of the previous year. The awards vary in value for the four

Nuclear Division plants, based on each plant's safety record for the year. In 1978, the Company spent \$282,000 on safety awards.

The total cost of all of these benefits—Workmen's Compensation Insurance, Unemployment Compensation Insurance, Layoff Allowance Payments, Educational Assistance Refunds, 25-year awards and safety awards—was 1.7 cents per payroll dollar in 1978.

This completes all of the items in our "hidden paycheck," as shown in the accompanying drawing. The total cost to the Company for all of them—retirement benefits, life and health insurance, the Savings Plan and "others"—in 1978 was 25.9 cents per payroll dollar. Next issue, we'll take a closer look at that 25.9 cents, in terms of how much it's really worth to you.

If you have specific questions about your benefits as they are discussed in this series, contact your Benefit Plans representative: at ORGDP, call 4-8462; ORNL, 4-4483; Paducah, Bell 272; and Y-12, 4-1555.

UNION CARBIDE	UNION CARBIDE CORPORATION NUCLEAR DIVISION P.O. BOX M, OAK RIDGE, TENNESSEE 37830	LIFE AND MEDICAL INSURANCE (5.7¢)	SAVINGS PLAN: 1.7¢	OTHER BENEFITS: 1.7¢
PAY TO THE ORDER OF	J. Q. EMPLOYEE			

**PAYCHECK COMPLETED**—The final chunk of our "hidden paycheck" falls into place this issue with the addition of the "other benefits" that cost the Company 1.7 cents per payroll dollar. These include Workmen's Compensation Insurance, Unemployment Compensation Insurance, Layoff Allowance Payments, Educational Assistance Refunds, 25-year awards and safety awards.

## Guards complete basic training



**GUARDS GRADUATE**—Seven guards and one officer at ORGDP have completed the Guard Department's 120-hour Basic Training Course, which includes one week of weapons qualification and two weeks of classroom instruction. In the first row are, from left, Lynn Calvert, head of Plant Protection; Chief Bill DeRossett; guards John Reed, Willie Schubert, Lillian Chapman and Al Brashears; and C. C. McSwain, manager of the Security and Plant Protection Division; back row, from left, Captain Bob Allen and guards Wayne Branch, Sanford Kilgo and E. R. Carter.



**COMPLETE COURSE**—The seventh class of ORGDP guards recently completed their 120-hour basic training course. They are, seated from left, Dan Templeton, Steve Allen, Lieutenant Jim Cozart and Jim Lane. Standing are Lynn Calvert, Plant Protection head; Garry Phillips, Reed Plemens, Bill Stigall, Joe Myers, C. C. "Mac" McSwain, Security Division manager; and Chief Bill DeRossett.



# New accelerator attains highest voltage ever

**A** new accelerator facility at ORNL, scheduled for completion late this year, has achieved a record 32-million-volt potential on its terminal—the highest static voltage ever attained. The voltage test was conducted on the column structure of the world's largest tandem electrostatic accelerator being constructed as part of the Holifield Heavy Ion Research Facility (HHIRF).

This national center for research on one of the emerging frontiers of nuclear physics has the goal of obtaining new fundamental understanding of nuclear structures and nuclear reactions by accelerating ever larger projectiles—or ions, the electrically charged nuclei of different elements—to the energies required to produce reactions with heavy target nuclei, such as uranium.

Earlier this month, personnel of the accelerator builder, National Electrostatics Corporation, Middleton, Wis., achieved a maximum potential of 32 million volts. Members of the ORNL staff who assisted in the tests were Norval Ziegler, Everett Richardson, John Benjamin, Ed Mann, Ray Juras, Joe Blair, and tandem accelerator group leader, Charles Jones. The voltage record was attained during initial tests conducted to assure reliable operation of the accelerator at its rated operating potential of 25 million volts.

As a national research center, HHIRF will be available equally to users from ORNL, universities and other laboratories throughout the U.S.

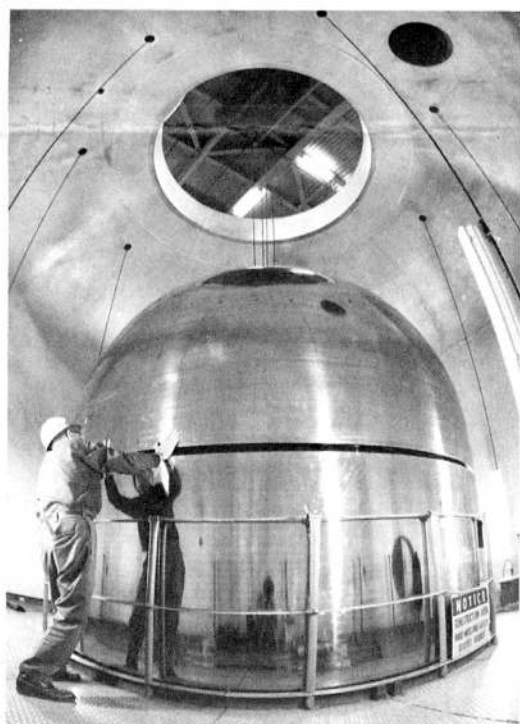
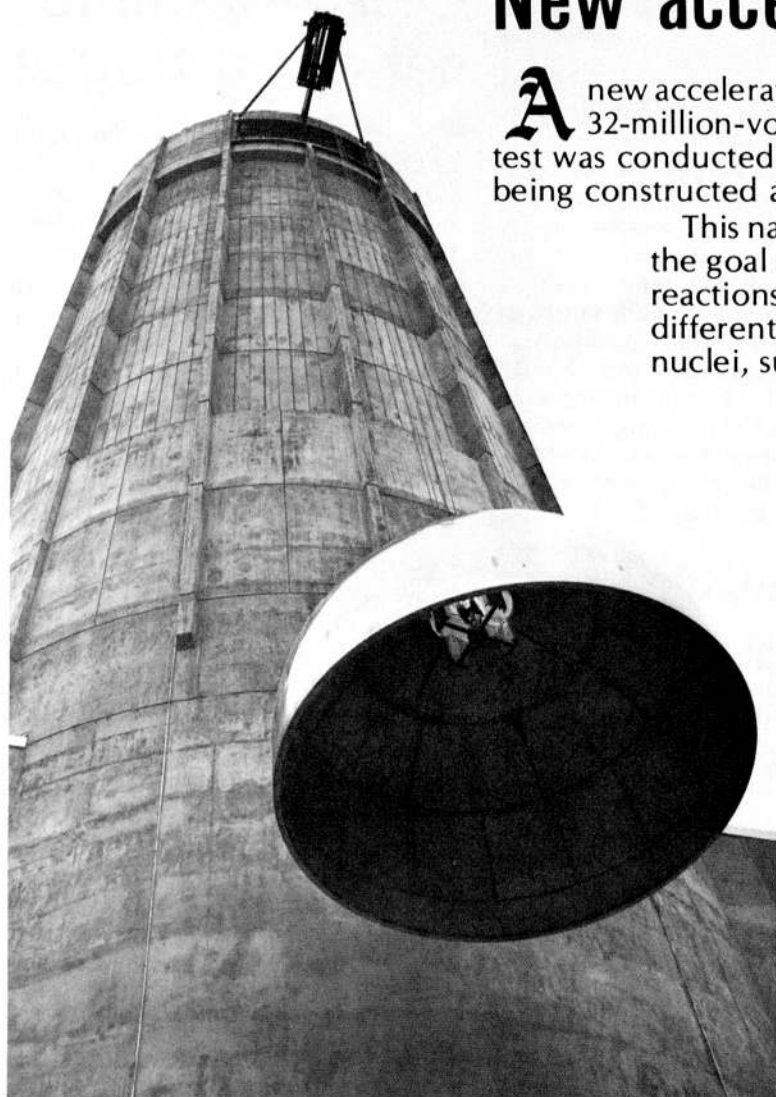
Among its applications will be both basic and applied research in such fields as nuclear structure, nuclear reactions, nuclear chemistry, atomic physics, biophysics, health physics, solid-state physics and materials damage.

Since ground was broken for HHIRF in 1975, a users organization numbering more than 300 U.S. and foreign researchers has been involved in planning the future experimental program as well as design of specialized instrumentation and data-handling computer equipment. To service these users, the Laboratory also is proceeding with plans for construction of a joint Heavy Ion Institute at the site, a 4,000-square-foot combination office-sleeping facility for the use of visitors.

The new tandem accelerator is of a novel "folded" design in which low- and high-energy acceleration tubes will be located within a single vertical column. Operating separately, or in a combined mode, this machine and the existing cyclotron will make possible explorations of the behavior of nuclear matter over a large portion of the periodic table and of atomic structure over the full range of elements.

The new tandem accelerator is housed in a 165-foot tower that dominates the Laboratory skyline and provides a commanding view of the 2900-acre site.

(Please see page 8)

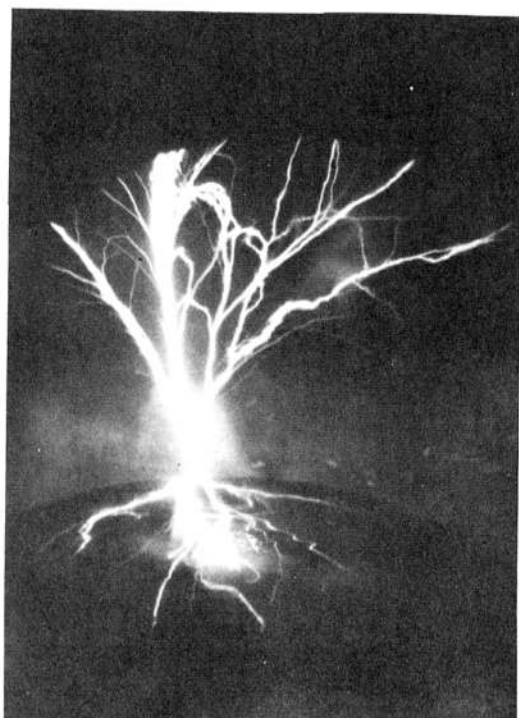


**PHOTOS:** At upper left, the 2200-pound stainless-steel top section of a terminal for the Holifield Heavy Ion Research Facility is lifted by a five-ton hoist, and lowered (photo at center left) onto the top of the facility's 25-million-volt tandem electrostatic accelerator. The 16-foot-tall terminal (right photo), which is 13 feet in diameter and 16 feet high, is the last major piece of equipment to be lifted into the tower. The mirror-like finish on the terminal shell is necessary to reduce the probability of sparks at very high voltages. The accelerator is enclosed in a 100-foot steel pressure vessel.

The HHIRF logo illustrates the new 25-million-volt facility (with parallel acceleration tubes in a "high rise" column structure) coupled with the Oak Ridge Isochronous Cyclotron, which accelerates particle beams in outwardly spiraling orbits.



**ELECTRICAL FIREWORKS—INDOORS!** During initial tests of ORNL's 25-million-volt tandem electrostatic accelerator, part of the Holifield Heavy Ion Research Facility, terminal voltages were increased at various test pressures until an electrical breakdown occurred in the insulating gas. At about 22 million volts, a spark (at left) is shown arcing 12 feet from the spherical terminal to the top of the surrounding pressure vessel. At the highest test pressure, a maximum potential of 32 million volts was attained—believed to be a world record for DC voltage.





## New accelerator attains highest voltage

(Continued from page 7)

Within the structure is a 440-ton steel pressure vessel, 100 feet high and 33 feet in diameter, which contains the accelerator's recently completed high-voltage column structure.

The 85-foot column consists of disk-like cast aluminum bulkheads, spaced at two-foot intervals and topped by a shiny steel spherical shell that is the high-voltage terminal.

Within this structure will be located the parallel low- and high-energy vacuum tubes in which the heavy ions

will be accelerated; the chain-like structures that are driven at high speed to establish the very large positive potential on the terminal; and a one-person service elevator that will operate—when the machine isn't!—within the column's central cavity.

In addition to the voltage tests now under way, work continues on the ion source, injector system, and beam lines for the tandem accelerator. HHIRF is scheduled to begin regular

operation as a user facility early in 1980.

Alexander Zucker, ORNL associate director who directed the national heavy-ion laboratory project in its initial stages, is responsible for the physical research programs of which the new facility will be part. James B. Ball of ORNL's Physics Division is director of HHIRF and the deputy director is John A. Martin. John A. Murray, UCC-ND Engineering Division, is project engineer; and Robert M. Hill Jr., is director of project engineering at ORNL.

## ORAU facilities set open house

The Professional Training Programs of Oak Ridge Associated Universities (ORAU) will have a public open house on Tuesday, June 19, from 4 to 8 p.m.

Professional Training, part of ORAU's Manpower, Education, Research and Training Division, has its facilities on Laboratory Road, behind the Federal Office Building. The group offers programs on all forms of energy-related topics to college students and faculty, and to government and industrial workers.

During the open house, visitors will view a demonstration of neutron activation analysis performed with a spontaneous fission source of californium-252, a man-made element that is an intense neutron emitter. There also will be a display of examples of coal analysis by X-ray fluorescence and several solid-state detectors controlled by computers.



Mary Ellen Pfost, Velva Blayney, Frances Hamilton, Tom Butler

## Park beach open

The beach area at Clark Center Recreation Park is now open, with a lifeguard on duty. Swimming hours are 10 a.m. until 8 p.m. Tuesday through Sunday, and 2 p.m. until 8 p.m. on Monday.

## Secretaries Week at Paducah Plant

Paducah secretaries emphasized pride and professionalism in their chosen career during the 1979 National Secretaries Week. A few of the myriad activities held during the busy week included, clockwise from top: taping the "Accent" program at WPSD-TV in Paducah; speaking at the National Secretaries Association luncheon; exhibiting on-the-job skills; and selecting the 1979 Secretary of the Year.



Diane Bennett



Mary Ellen Pfost, Kentucky Division President of NSA



## 'Guys and Dolls' next at Playhouse

Peter Dittner (left), Tony Wright, Ken Dale and Art Dworkin are among the Nuclear Division employees who will appear in the musical comedy "Guys and Dolls," beginning this month at the Oak Ridge Community Playhouse. The play, based on the New York City street characters and stories created by Damon Runyon, is scheduled for six performances, June 21-23 and 28-30, at 8:20 p.m. at the Playhouse in Jackson Square.

Other employees in the cast are Libby Landers, Bob Broome, Gail Klein, Terry Donohue, John Klein, Charles Crume, Jim Dumont and Bob Worsham.

Tickets for the show will go on sale at the Playhouse box office June 18. Reservations may be made after that date by calling 483-1224.



Thelma Brust, 1979 Secretary of the Year  
Betty Lester, 1978 Secretary of the Year



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